



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,128	01/20/2004	He-Ting Tsai	BHT-3167-174	6659

7590 03/22/2005  
BRUCE H. TROXELL  
SUITE 1404  
5205 LEESBURG PIKE  
FALLS CHURCH, VA 22041

EXAMINER	
CLEVELAND, MICHAEL B	
ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/759,128

Applicant(s)

TSAI, HE-TING

Examiner

Michael Cleveland

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 011905.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election of Group I, claims 1-10 in the reply filed on 1/19/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 11-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/19/2005.

### *Information Disclosure Statement*

3. The information disclosure statement filed 1/19/2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

### *Drawings*

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 18, 20, 205. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Art Unit: 1762

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. (U.S. Patent 6,447,879, hereafter '879). (Ueda (U.S. Patent 6,468,676) is cited as evidence.)

'879 teaches

preparing an OLED sample section for electron microscope transmission electron microscope examination (col. 7, lines 29-46; col. 22, line 55-col. 23, line 3) comprising:

providing an OLED device including a substrate of NESA glass (1) (which is a substrate with a first electrode on said substrate; see '676, col. 18, lines 35-42), an organic layer (6,7) on said first electrode, and a second electrode (16) on said organic film (col. 22, lines 36-42).

'879 does not explicitly teach that the sample is prepared by forming a protecting layer over a surface of said OLED and performing milling procedure on said OLED device to obtain the sample section. However, the Examiner takes Official Notice that it is very well known in the art of transmission electron microscopy to form a TEM section sample by depositing a protective film and milling the sample of interest to achieve a TEM sample of the desired thickness. The selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed a protective layer and milled the OLED sample of '879 to prepare it for TEM examination because '879 teaches that TEM examination of the OLED is desired, and the method of protecting and depositing described above is well known in the art of transmission as suitable for preparing sample sections for TEM. It is further the examiner's position that the features of the dependent claims: the use of platinum or tungsten as the protective material, the use of focused ion beams,

Art Unit: 1762

the use of coarse, intermediate, and fine milling processes, and overlapping ranges of the claimed sample thickness and protecting layer thicknesses are also well known in the art.

7. Claims 1-3, 5, 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai '879 as applied to claim 1 above, and further in view of Li et al. (U.S. Patent 6,194,720, hereafter '720).

'879 is discussed above but does not explicitly teach that the sample is prepared by forming a protecting layer over a surface of said OLED and performing milling procedure on said OLED device to obtain the sample section, and specifically does not teach the use of a sample thickness of 0.2 microns, milling via focused ion beam, a platinum protecting layer, nor the use of coarse, intermediate, and fine milling procedures.

'720 teaches that suitable features for the preparation of TEM section samples include forming a protective layer on the sample and thinning (i.e., milling) by a technique such as a focused ion beam (col. 5, line 53-col. 6, line 27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used such the method of '720 as the particular method of preparing the TEM samples of '879 with a reasonable expectation of success because '720 teaches that its methods are suitable for preparing such samples.

Claim 2: '720 teaches a section thickness of 0.2 microns (col. 6, lines 55-60).

Claim 3: '720 teaches focused ion beam (FIB) milling (col. 5, lines 53-64).

Claim 5: '720 teaches a Pt protective layer (col. 6, line 19-21).

Claims 7-9: '720 teaches several progressively finer milling procedures (i.e., coarse, intermediate, and fine milling) (col. 2, lines 10-18).

8. Claims 1-6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai '879 as applied to claim 1 above, and further in view of Shofner (U.S. Patent 6,300,631, hereafter '631).

'879 is discussed above but does not explicitly teach that the sample is prepared by forming a protecting layer over a surface of said OLED and performing milling procedure on said OLED device to obtain the sample section, and specifically does not teach the use of a

Art Unit: 1762

sample thickness of 0.2 microns, milling via focused ion beam, platinum or tungsten protecting layer, nor a protecting layer thickness of 2-3 microns.

'631 teaches that suitable features for the preparation of TEM section samples include forming a protective layer on the sample and thinning (i.e., milling) by a technique such as a focused ion beam (col. 1, lines 13-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used such the method of '631 as the particular method of preparing the TEM samples of '879 with a reasonable expectation of success because '631 teaches that its methods are suitable for preparing such samples.

Claim 2: '631 teaches a section thickness of 0.2 microns (col. 2, lines 29-31).

Claim 3: '631 teaches focused ion beam (FIB) milling (col. 1, lines 14-20).

Claim 4: '631 teaches a protection layer thicknesses of 1 micron (col. 4, lines 53-55) and 1-2 mm (col. 1, lines 17-19), and therefore effectively discloses an effective range of thicknesses of at least 1 micron- 2 mm. The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549.

Claims 5-6: '631 teaches a Pt or W protective layer (col. 4, line 50-55).

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grunewald (U.S. Patent Application Publication 2004/0164242), Shaapur et al. (U.S. Patent 6,188,068), and Sadayama (U.S. Patent 6,686,600) are cited as further evidence of known TEM preparation procedures.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cleveland whose telephone number is (571) 272-1418. The examiner can normally be reached on Monday-Thursday, 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Cleveland

Primary Examiner

Art Unit 1762

3/15/2005